Supporting Information

Synthesis and Structure of Bis(diphenylphosphinimino)methanide and Bis(diphenylphosphinimino)methanediide Beryllium Complexes.

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Table Content

Figure S1. ^{1}H NMR spectrum of **1** in C_6D_6, chemical shift in ppm.

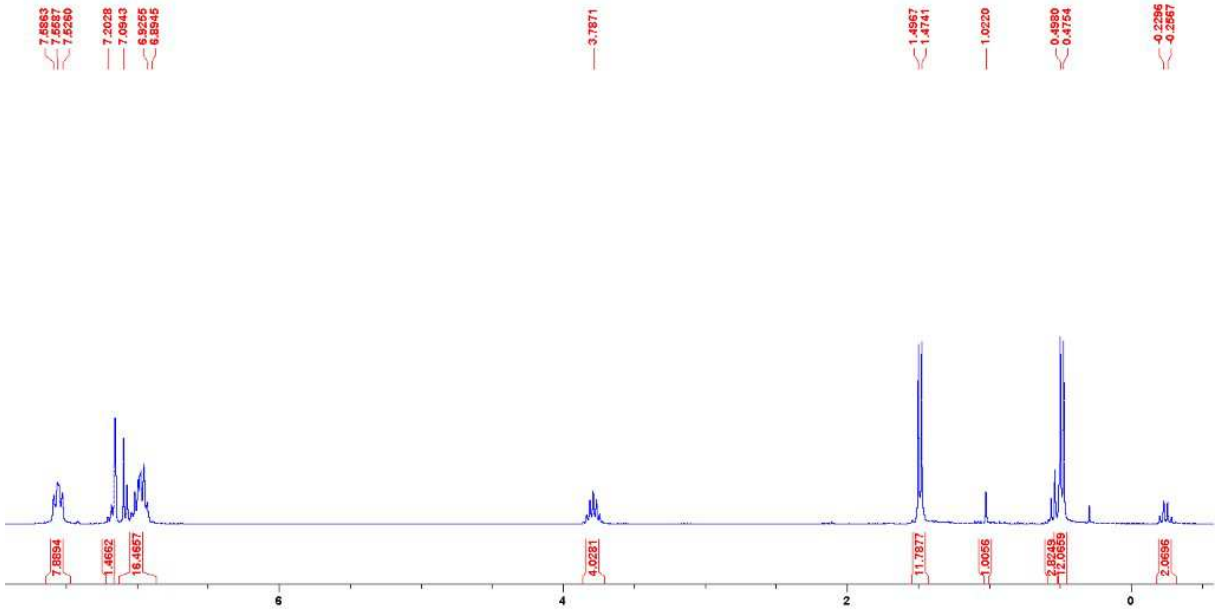

Figure S2. ^{13}C NMR spectrum of **1** in C_6D_6, chemical shift in ppm.

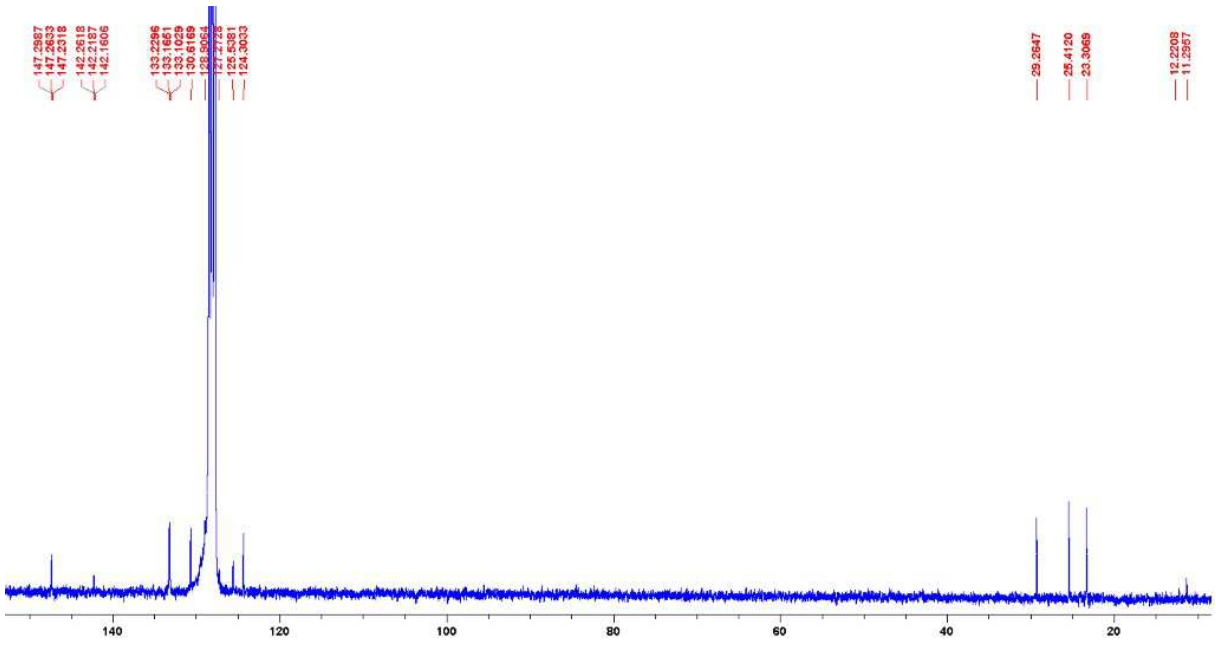

Figure S3. ^{31}P NMR spectrum of **1** in C_6D_6, chemical shift in ppm.

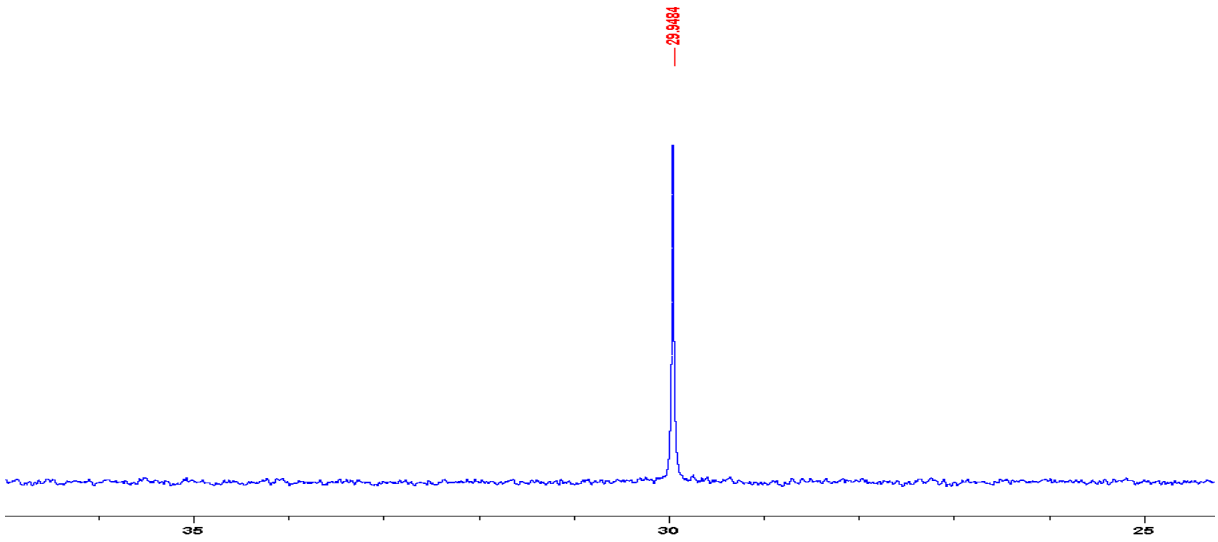

Figure S4. ^{9}Be NMR spectrum of **1** in C_6D_6, chemical shift in ppm.

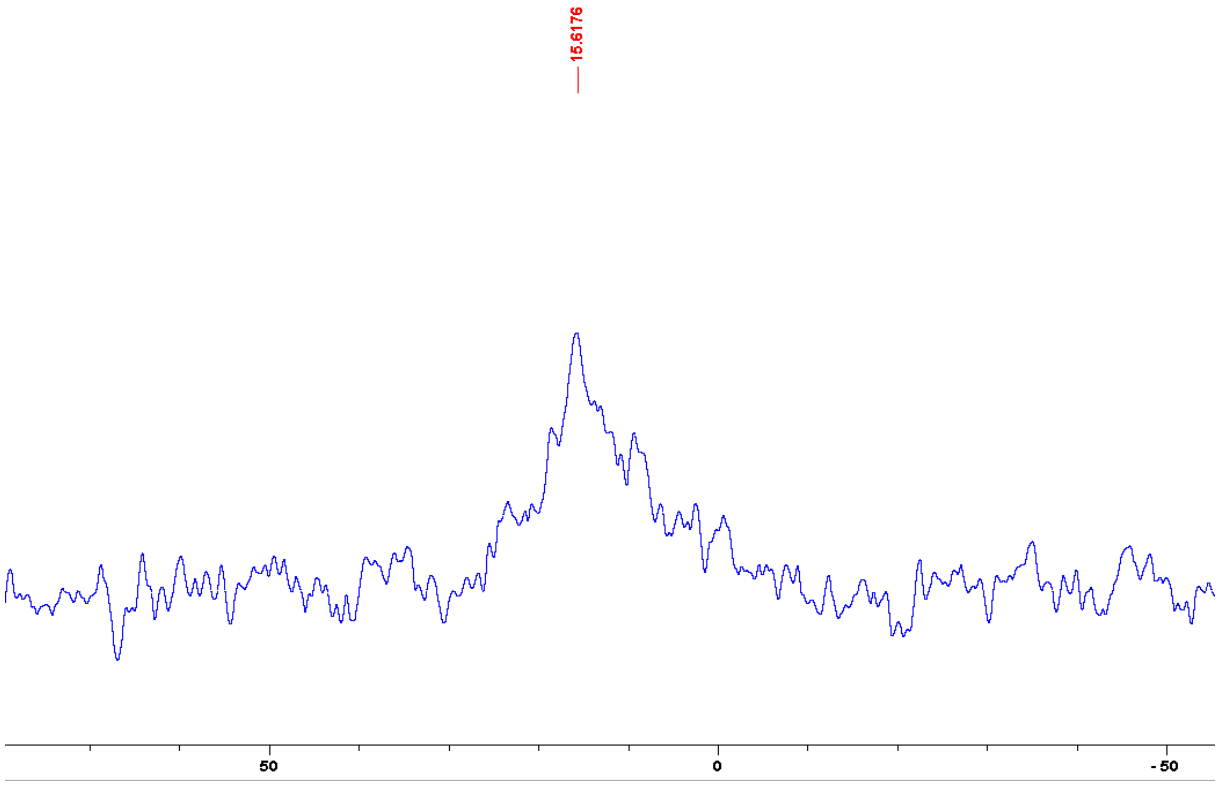

Figure S5. ATR-IR spectrum of **1**.

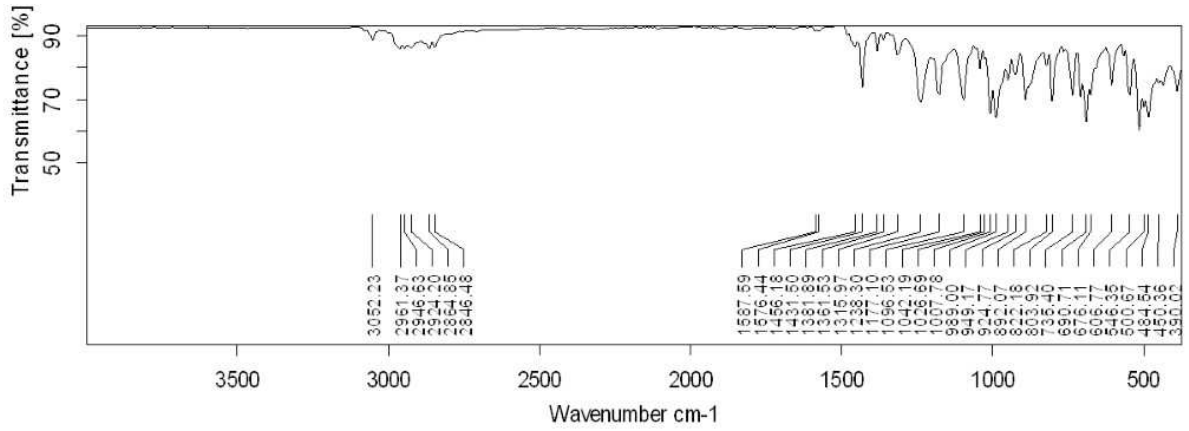

Figure S6. ^{1}H NMR spectrum of **2** in C_6D_6, chemical shift in ppm.

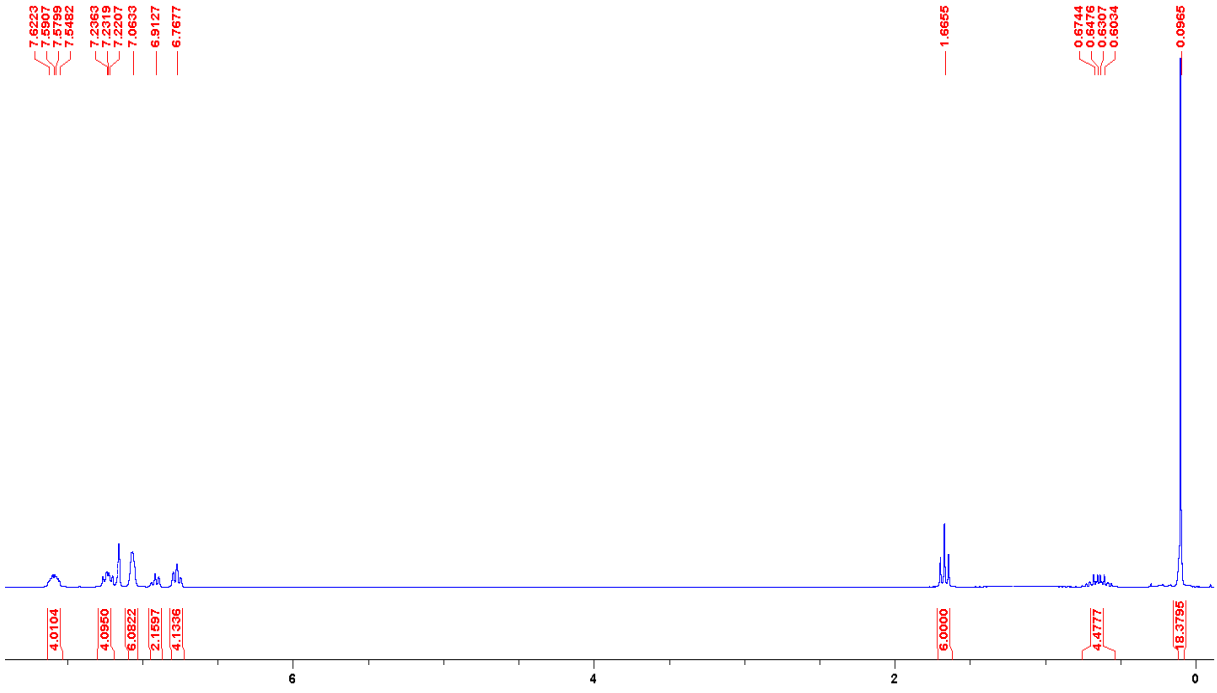

Figure S7. ^{13}C NMR spectrum of **2** in C_6D_6, chemical shift in ppm.

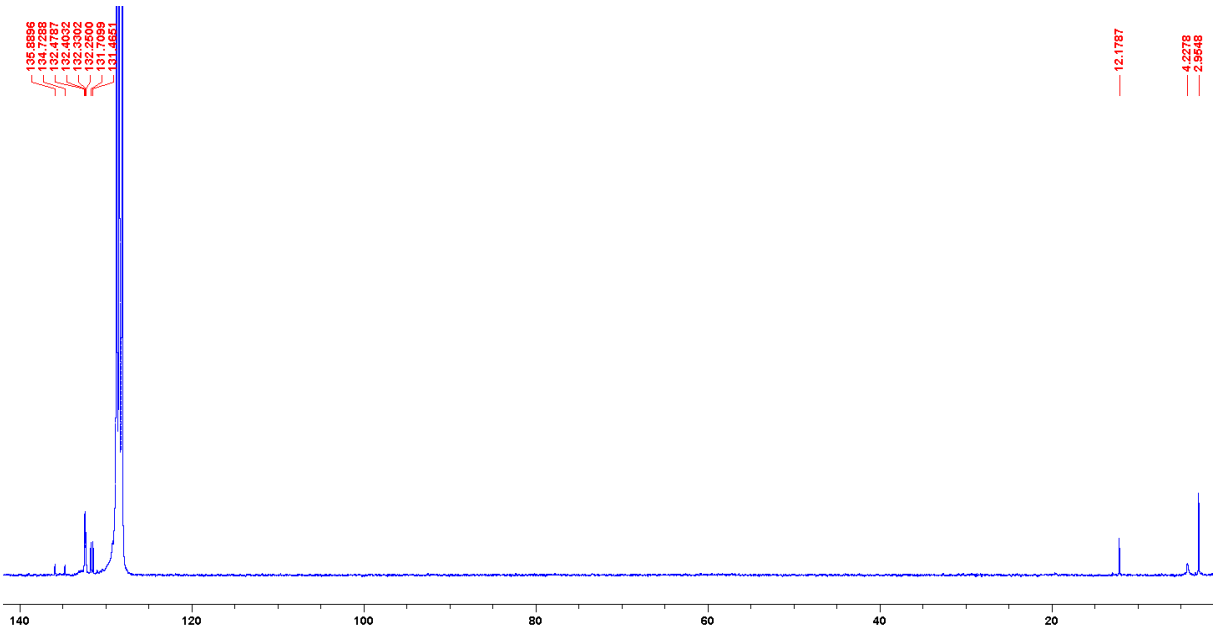

Figure S8. ^{31}P NMR spectrum of **2** in C_6D_6, chemical shift in ppm.

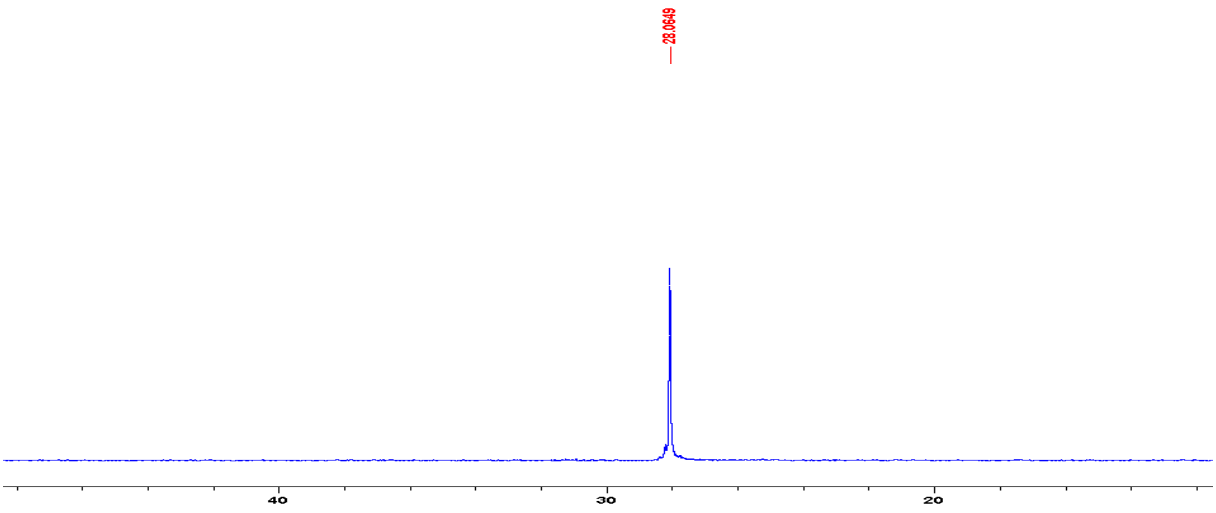

Figure S9. ^{9}Be NMR spectrum of **2** in C_6D_6, chemical shift in ppm.

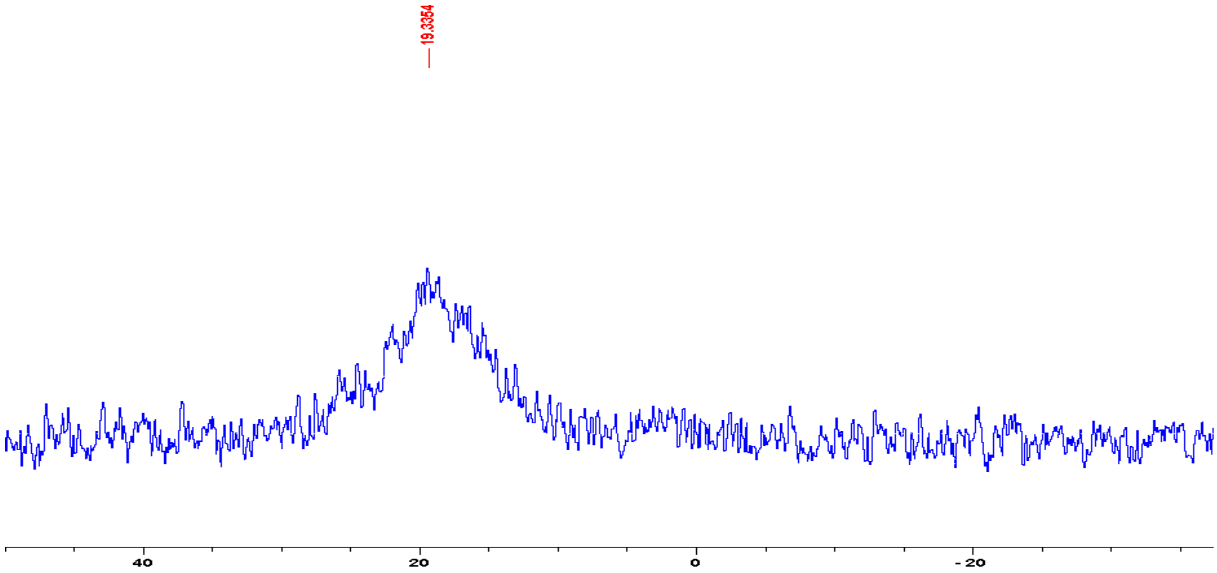

Figure S10. ATR-IR spectrum of **2**.

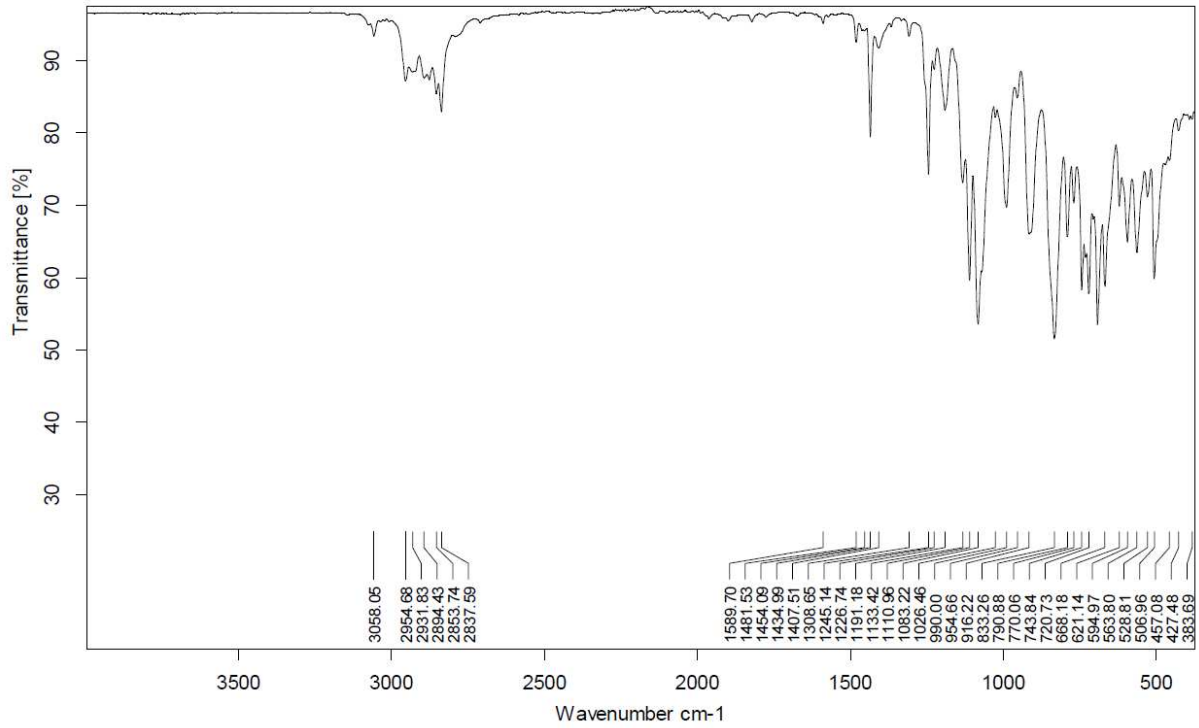

Figure S11. ^{1}H NMR spectrum of **3** in C_6D_6, chemical shift in ppm.

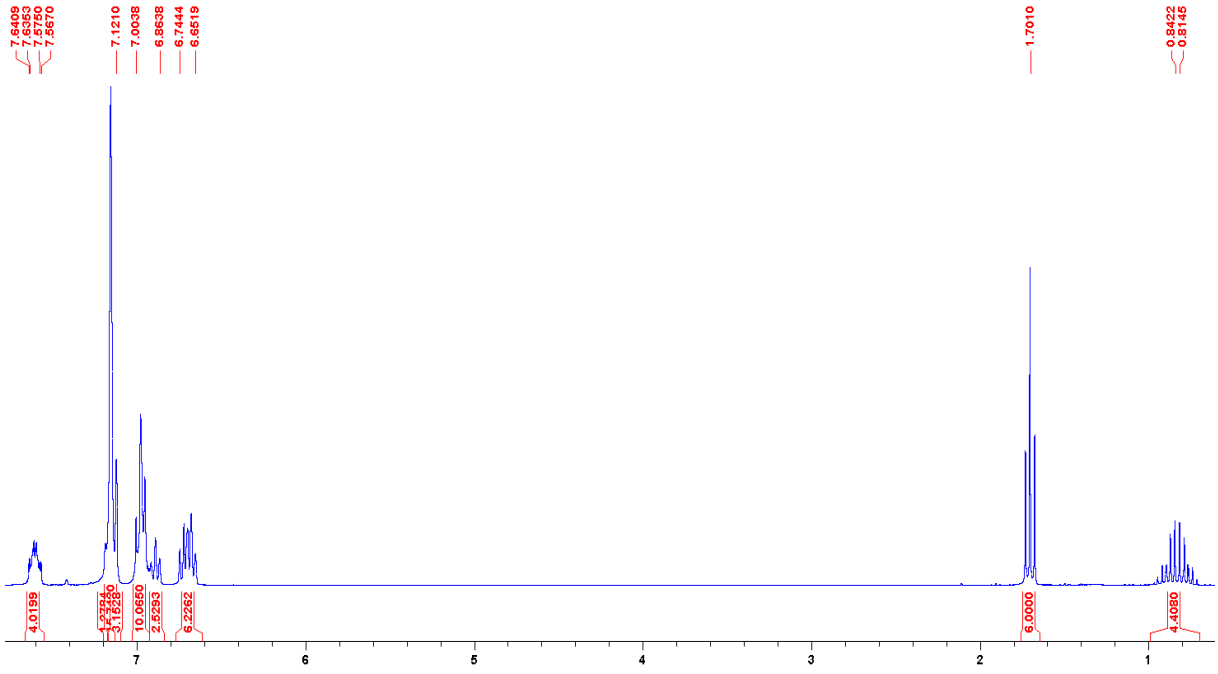

Figure S12. ^{13}C NMR spectrum of **3** in C_6D_6, chemical shift in ppm.

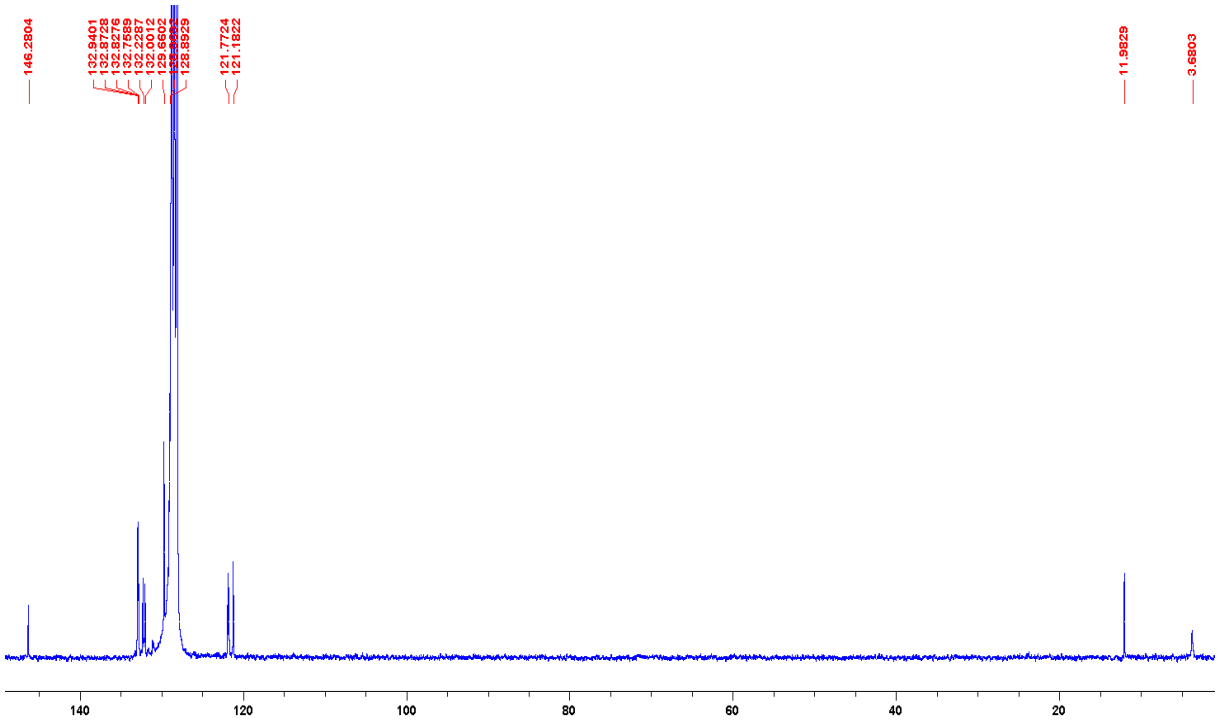

Figure S13. ^{31}P NMR spectrum of **3** in C_6D_6, chemical shift in ppm.

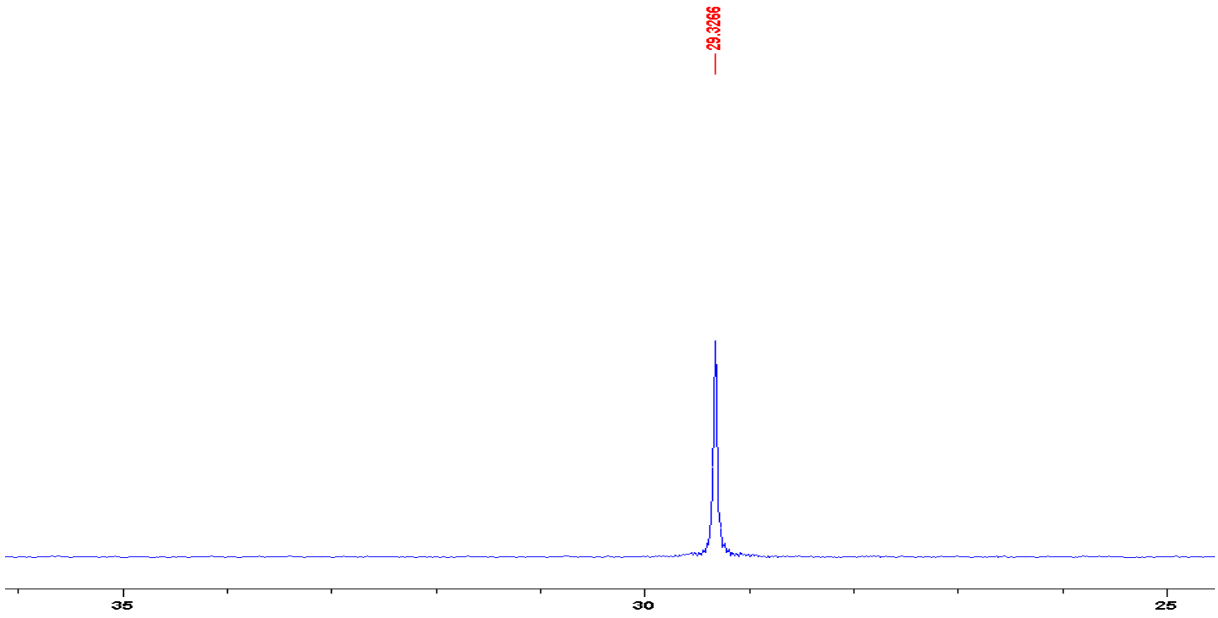

Figure S14. ^{9}Be NMR spectrum of **3** in C_6D_6, chemical shift in ppm.

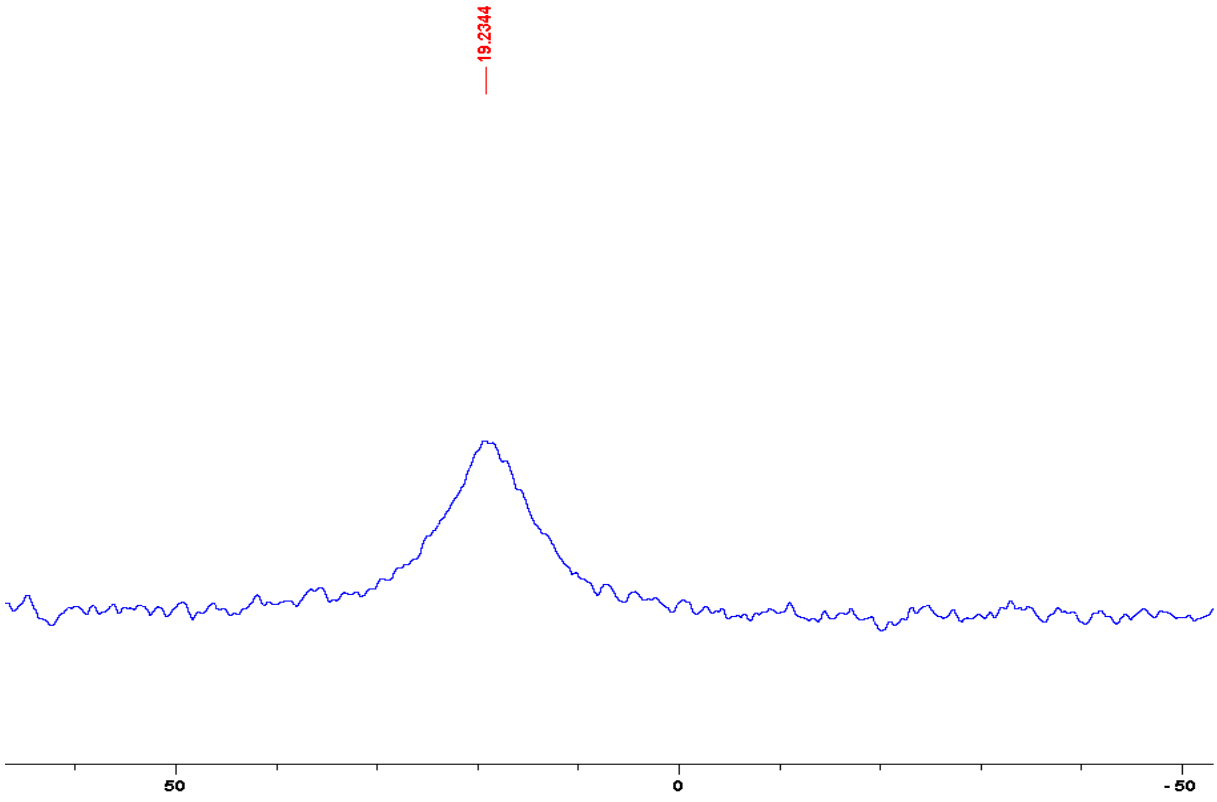

Figure S15. ATR-IR spectrum of **3**.

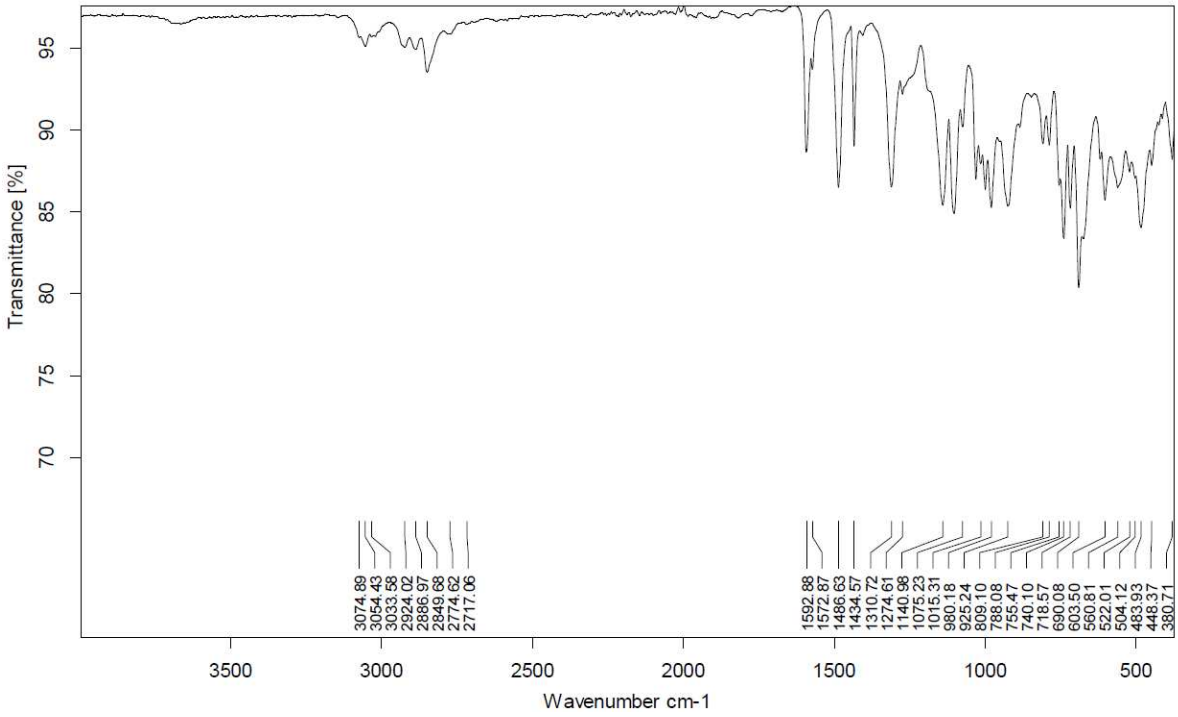

Table S1. Crystallographic details of 1 - 3.

	1	**2**	**3**
Empirical formula	$C_{51}H_{60}$ BeN_2P_2	$C_{35}H_{48}Be_2N_2P_2Si_2$	$C_{41}H_{40}$ $Be_2N_2P_2$
M	771.96	632.89	640.71
Crystal size [mm]	0.30 × 0.18 × 0.09	0.22 × 0.21 × 0.10	0.15 × 0.10 × 0.07
T [K]	100(1)	100(1)	100(1)
Crystal system	orthorhombic	triclinic	orthorhombic
Space group	*Pbca*	*P-1*	*Pbca*
a [Å]	17.6236(15)	11.4830(8)	19.0777(16)
b [Å]	20.2410(17)	17.7068(13)	17.7914(14)
c [Å]	24.665(2)	18.3945(15)	20.5506(17)
α [°]	90	90.41184)	90
β [°]	90	91.935(4)	90
γ [°]	90	90.137(4)	90
V [Å^3]	8798.5(13)	3737.9(5)	6975.3(10)
Z	8	4	8
D_{calc} [g · cm^{-1}]	1.166	1.125	1.220
μ(MoK_α [mm^{-1}])	0.135	0.205	0.156
Transmissions	0.75/0.38	0.75/0.64	0.75/0.61
F(000)	3312	1352	2704
Index ranges	$0 \le h \le 24$	$-16 \le h \le 16$	$-24 \le h \le 26$
	$0 \le k \le 29$	$-24 \le k \le 25$	$-24 \le k \le 23$
	$0 \le l \le 35$	$-24 \le l \le 26$	$-28 \le l \le 29$
θ_{max} [°]	25.242	25.242	25.242
Reflections collected	13520	100197	76246
Independent reflections	13520	22272	10418
R_{int}	0.1120	0.0359	0.0887
Refined parameters	514	792	426
R_1 [$I > 2\sigma(I)$][a]	0.0527	0.0603	0.0476
wR_2 [all data][b]	0.1500	0.1629	0.1286
GooF[c]	1.085	1.066	1.021
$\Delta\rho_{final}$ (max/min) [e · Å^{-3}]	0.531/-0.378	0.774/-1.040	0.464/-0.374

[a] $R1 = \Sigma(||F_o| - |F_c||)/\Sigma|F_o|$ (for $I > 2\sigma(I)$). - [b] $wR2 = \{\Sigma[w(F_o^2 - F_c^2)^2]/\Sigma[w(F_o^2)^2]\}^{1/2}$. - [c] Goodness of fit = $\{\Sigma[w(|F_o^2| - |F_c^2|)^2]/(N_{observns} - N_{params})\}^{1/2}$. $w^{-1} = \sigma^2(F_o^2) + (aP)^2 + bP$ with $P = [F_o^2 + 2F_c^2]/3$, *a* and *b* are constants chosen by the programme.